COT DEATH PREVENTION PROGRAMME

INFORMATION FOR HEALTH WORKERS

The Department of Health, Child and Adolescent Health Policy Unit and Health Education Services, acknowledges the many people who assisted in the development of this programme.

A special thanks to Royal New Zealand Plunket Society, Department of Paediatrics at the University of Auckland, the Department of Child Health at the University of Otago, and Te Kohanga Reo Trust, the Office of the Commissioner for Children and Cot Death Division of the National Child Health Research Foundation.
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INTRODUCTION

New Zealand's overall infant mortality rate does not compare favourably with other developed countries. This is mainly due to the high cot death rate in the postneonatal period (ages one to 11 months).

Cot death, the unexpected death of infants, usually occurs during sleep. In the majority of cases no cause of death can be found and the death is classified as Sudden Infant Death Syndrome (SIDS).

In a minority of cases evidence of infection or some other condition is found but not of sufficient severity to be thought the cause of death.

NEW ZEALAND COT DEATH STUDY

The New Zealand Cot death Study is a three-year multicentre case-control study, which obtained data from an estimated 500 cot death cases with 1800 controls. The study covers approximately 75 percent of the country's births and deaths and began on 1 November 1987. The results from the first year of this study indicate that potential exists to reduce the number of sudden infant deaths in New Zealand.

The Help Prevent Cot Death Programme implements the New Zealand finding by placing an emphasis on behaviours that have the potential to be modified by those caring for infants. These include placing baby on back or side to sleep, keeping baby smokefree and breastfeeding.

PROGRAMME CONTENTS

(A) INFORMATION FOR HEALTH WORKERS

Contents include:

Expert paper; smokefree, breastfeeding, back or side sleeping strategies; questions and answers; and resource list.

This booklet has been designed for senior health care workers to use in discussion and when workshops the Help Prevent Cot Death Programme. The booklet should be distributed to senior health workers in agencies such as:

Obstetric units,
Te Kohunga Reo,
Maori Womens Welfare League,
Plunket,
Iwi,
Early Childhood Centres,
Dental Clinics, and to
Public Health Nurses.
Senior health workers can disseminate the information and implement the programme through community networks and channels.

(B) CAREGIVER EDUCATION

TELEVISION VIDEO CLIPS

Developed by the Cot Death Division of the National Child Health Research Foundation. These are designed to raise general public awareness about behavioural factors thought to be linked to cot death.

POSTER

The Help Prevent Cot Death (code 4898) poster is designed for display by health care providers. It raises awareness about the Help Prevent Cot Death programme and carries health messages and a menu of information sources.

FACTSHEET

The factsheet Go Smokefree For You and Your Baby (code 4900) is for women who smoke. This is available together with the Your Pregnancy and Breastfeeding booklets when pregnancy is first confirmed by a general practitioner or obstetrician. Extra copies of these materials can be distributed to mothers who attend antenatal classes.

LEAFLET

A leaflet Help Prevent Cot Death (code 4897) in both English and Maori can be given out and discussed with the Health and Development Record book and Babies Need... wall frieze. It is designed to provide cot death prevention information to parents and builds on to the messages in the Baby Health Care educational materials.

STICKER

A sticker (code 4899) promoting side or back sleeping can be given out during the Plunket nurse's first visit. It provides a focus for discussion on cot death prevention between the nurse and parents. It can also be used to reinforce the message of the leaflet.

BREASTFEEDING MATERIAL

A breastfeeding booklet Breastfeeding Giving Your Baby The Best You've Got, poster and seven factsheets are also available for distribution.
PREVENTING COT DEATH IN NEW ZEALAND

[This expert paper has been prepared by BJ Taylor, EA Mitchell and RPK Ford.]

INTRODUCTION

Infant mortality in New Zealand has steadily decreased over the last 50 years. This improvement has almost entirely been due to improvement in the neonatal (first month of life) mortality, while postneonatal mortality (one month to one year) has remained unchanged since the second world war in the non-Maori population (figure 1). Our neonatal mortality rates rank with the best in the world, whilst our postneonatal mortality compares very unfavourably with other western countries. Postneonatal mortality rates in the Maori, though better than they were, are not as good as the non-Maori New Zealander(1).

The major cause of death in the postneonatal age group in New Zealand is Sudden Infant Death Syndrome (SIDS or cot death), which in 1986 accounted for 65% of deaths in this age group(2). Deaths from other causes, eg, congenital malformations, are similar to death rates from these causes in other countries. Our high postneonatal death rate is almost entirely accounted for by our rate of SIDS of 4.0 per 1000 live births (figure 2), which is one of the highest rates recorded in the western world.

Also there is a marked difference in death rates between northern and southern New Zealand with much higher rates in southern New Zealand. The reasons for this are not clear but appear unlikely to be related to increased socio-economic disadvantage in southern areas(3).

SIDS has increased steadily over the last two decades. Much of the increase can be attributed to diagnostic transfer from pneumonia and other respiratory causes. In New Zealand 80% of all SIDS deaths occur in the age group 1-5 months and in 1986 73% of all deaths in this age group were due to SIDS. Thus total mortality in those aged 1-5 months is an indirect measure of SIDS mortality and has increased since 1972 in New Zealand(4).

Within this situation there has been a great deal of speculation about the cause(s) of our high rate of SIDS, frequent public conjecture and often emphatic comment, much of it without a good scientific basis. This has been confusing to most parents who have not known what to do to reduce the risk for their child. Parents whose infant has died have been and continue to be distressed with every new theory published.

To address much of the ignorance we have about the special features of SIDS in New Zealand the Medical Research Council funded a three-year multi-centre case control study. The study began in November 1987 and the results of the first year are now available.

RESULTS OF THE NEW ZEALAND COT DEATH STUDY

The study area included 80% of all New Zealand births and includes all infants who died of SIDS in the study area from 1 November 1987 to 31 October 1988(5). There were 260 postneonatal deaths in the study areas for which the causes are illustrated in the table. The 162 deaths from SIDS make up the study's cases. The postneonatal and SIDS mortality rate by region was consistent with the expected north-south gradient of SIDS mortality rate (figure 3). There was no north-south gradient for non-SIDS postneonatal deaths.
Obstetric and Plunket records were reviewed and the family interviewed by trained research interviewer usually within four weeks of the death. The interview usually lasted 60 to 90 minutes and aimed to look at known risk factors as well as all childcare practice and symptoms that might allow prediction of risk of SIDS or suggest a change in childcare practice that might reduce the risk of SIDS. As far as possible questions that might support or refute many of the recently raised theories of causation were also included.

There were 589 control infants. Each control infant was chosen randomly and allocated a day and time of death which was calculated to mimic the expected age and time of death of SIDS infants. This was to enable the childcare practice of the SIDS and control infants to be more directly comparable. They underwent the same interview and data gathering from obstetric and Plunket records.

Parental (or guardian) interviews were completed in 137 (84.6%) of cases and 528 (89.6%) of controls.

No surprises

Many of the risk factors described by other studies were confirmed for the New Zealand scene. The mothers of cases were significantly younger, less likely to be married, left school earlier and had lower socio-economic status than mothers of control infants. They were also younger when they had their first pregnancy, more likely to have had other pregnancies, less likely to have attended antenatal classes in the index pregnancy and booked for antenatal care later than control mothers. The infants were more likely to be male, Maori, lower birthweight and gestation, and more likely to be admitted to a neonatal unit. The expected winter excess of SIDS was also seen.

Environment or childcare practice that can be changed

Three important elements about how we look after babies in New Zealand were obviously and significantly different between cases and controls even when other variables were controlled for in a multivariate analysis. Infants were at an increased risk of dying if:

1) they were put to sleep on their front (the prone sleep position)
2) their mothers smoked during pregnancy or in the two weeks before the death of the baby and
3) they were not breastfed at the time of discharge from hospital or at any stage of their life.

The exposure to these risk factors is illustrated in figure 4.

Babies sleeping on their fronts have a 3.5 fold increased risk of dying compared with babies sleeping on their sides or backs. Lack of breastfeeding increases the risk 3 times and maternal smoking also 3 times. Mothers who smoke 20 or more cigarettes per day increase the risk to their babies by 5 fold.

Furthermore, calculations based on the New Zealand Cot Death Study suggest that if all babies were to sleep on their sides or backs the SIDS rate could be reduced by 52%. If mothers did not smoke in pregnancy and during the first year of the infants’ life the SIDS rate could be reduced by 40% and if all babies were breastfed the SIDS rate could be reduced by 22%. In total these three risks may account for 79% of deaths from SIDS.
For the first time there is solid evidence on which to base intervention to prevent SIDS.

**HOW MIGHT THESE CHILDCARE PRACTICES INCREASE THE RISK OF SIDS?**

**SLEEP POSITION AND COT DEATH**

Several groups of both New Zealand and overseas SIDS researchers have suggested that babies who sleep on their front during infancy are at increased risk of SIDS. Studies in Australia(6), Hong Kong(7), France(8), Netherlands(9) and the UK(10) have made observations very similar to our own. However, apart from the recent study from the UK many studies did not look at position babies were put down to sleep as compared to position found dead. Most have not taken into account possibly confounding factors such as socio-economic variables and birth weight in their analysis. Data from the New Zealand Cot Death Study strongly suggests that babies that sleep on their front at the vulnerable age of SIDS are at much higher risk and that this effect does not disappear when possible confounding factors are taken into account.

**Why might prone sleeping be dangerous for infants?**

The main risks attributed to prone sleep position relate to risk of upper airway obstruction, especially in combination with the infants becoming too hot. At two to three months of age babies when they lift their heads while lying prone are more likely to put their head face down instead of putting their head down face to side. If this happens they are likely to become hyperthermic because the face is the most important heat exchange part of the body, especially in infants who are already very well insulated(11).

**What might we be giving up if all babies are slept on their sides or back?**

While it is frequently stated that babies lying on their backs are at risk of aspiration of stomach contents if they vomit while lying on their backs, there is no good evidence to support this assertion. Interestingly, countries where babies are routinely put to sleep on their backs show that aspirations (as well as SIDS) is rare. There is, however, some evidence that infants with significant gastro-oesophageal reflux have less reflux in the prone position and also that infants put to sleep in the prone position tend to go to sleep more readily and spend less time crying. There will still be some medical situations where lying prone is safer. These are: (1) clinically significant gastro-oesophageal reflux and (2) infants with Pierre-Robin syndrome.

**SMOKING AND COT DEATH**

The central question is whether smoking causes SIDS or is only an association seen because of other related factors such as low birth weight and poorer socioeconomic conditions. Data from the New Zealand Cot Death Study shows that the adverse effect of maternal cigarette smoking persists when other
confounding factors are controlled for. This is consistent with recent data from other countries(12,13).

**How might maternal smoking cause SIDS?**

Parental smoking is well known to increase the risk of respiratory infections(14), which might produce both partial upper airway obstruction, hyperthermia or even overwhelming infection at an age when babies have their lowest immunoglobulin levels. Smoking in pregnancy results in smaller babies, and low birth weight infants have been shown to have a higher risk of cot death. Also, carbon monoxide from passively smoked cigarettes may decrease oxygen delivery to the infant's tissues.

**BREASTFEEDING AS PROTECTIVE AGAINST COT DEATH**

Breastfeeding has been identified in some studies as being protective against SIDS but not in others. Preliminary analyses on the first half of the NICHHD SIDS Cooperative Epidemiological Study database found that SIDS cases were breastfed significantly less often, and if breastfed, were weaned earlier than control infants(15). The differences in breastfeeding rates persisted after controlling for maternal age, socioeconomic status and parity. The New Zealand Cot Death Study shows that not breastfeeding remains a significant risk factor after controlling for other confounding factors.

**Why might breastfeeding be protective?**

Breastfeeding decreases the risk of gastroenteritis and probably other infections in the first six months of life. Breast milk has wide ranging effects on the immune system. Therefore the prime protective effect against cot death may be mediated through decreasing the risk of infection.

Others have speculated that babies that are breastfed learn a different way of sucking and jaw position which might make them less likely to experience posterior positioning of the tongue and therefore upper airway obstruction.

**CAN WE NOW JUSTIFY STRONGLY RECOMMENDING CERTAIN CHILDCARE PRACTICES?**

Yes, we believe we can. All of the central recommendations from the New Zealand Cot Death Study results are supported by evidence from many areas of research. There is no evidence that any of the recommended practices are dangerous. Many health professionals, including ourselves, believe that now we have this information we have a duty to the babies of New Zealand to try and change how they are looked after.

From March 1991 the *Help Prevent Cot Death Programme* will begin which focuses on the above three risk factors and will attempt to reduce the prevalence of these factors.
NEW ZEALAND COT DEATH STUDY

Auckland
Postneonatal 4.6
SIDS 2.5

Hamilton
Rotorua
Postneonatal 6.0
SIDS 3.5

Napier
Postneonatal 7.8
SIDS 5.2

Hutt
Wellington
Postneonatal 5.6
SIDS 3.4

Christchurch
Postneonatal 5.8
SIDS 4.0

Dunedin
Invercargill
Postneonatal 8.5
SIDS 6.8

1 November 1987—31 October 1988
Postneonatal & SIDS mortality
Rates by Study Areas
POST NEONATAL AND SIDS MORTALITY RATES, 1986

NZ NEONATAL AND POST NEONATAL MORTALITY
Non Māori 1940—1986

CHILD CARE PRACTICES

Cases  Controls

Risk Factor

percentage

Prose Sleep Position  Smoking  Not Breast Feeding

42.9  54.1  33.6

72.7  63.2  14.7
CONCLUSION AND SUMMARY

For the first time New Zealand has the real prospect of dramatically reducing the number of babies dying of SIDS each year. Our calculations suggest that if all babies were to sleep on their sides or back, all mothers were not to smoke during pregnancy, and while their infants were less than one year old, and all babies were to breastfeed for the first six months of their lives, then the New Zealand cot death rate would be less than 1 per 1000 live births, that is a saving of at least 150 lives every year.

References

A SMOKEFREE START TO LIFE
Strategic Plan and Information Guideline

The findings of the New Zealand Cot Death Study indicate that if maternal smoking during pregnancy and infancy were eliminated there would be a 40 percent reduction in cot death rates. Exposure to cigarette smoke while being cared for, or breastfed also harms infant health.

GOALS

To reduce maternal smoking during pregnancy and during the infant's first year. To ensure that infants have a smokefree environment.

TARGET

To reduce the number of pregnant mothers smoking by 10 percent by 1995 and by 20 percent by the year 2000.

STRATEGIES

Aim to reduce parental tobacco smoking by public policy strategies and measures which encourage and enable parents, and future parents, to avoid starting to smoke or to stop smoking.

This involves the use of strategies aimed at the general population, as well as specific education for parents. National measures to create a smokefree lifestyle promote a social environment which make it easier for parents to quit smoking, not to start, or provide a smokefree environment for their children.

NATIONAL STRATEGIES

These include:
Implementation of Smokefree Environments Act 1990

Act requirements:
- A ban on any new tobacco advertising signs. Existing shop signs and billboards can stay up until 1995 but can't be altered in any way;
- A ban on tobacco advertising in newspapers or magazines. The Australian Federal government has also stopped tobacco advertising in Australian magazines which are imported here;
- Workplace smokefree or smoking policies to protect nonsmokers from tobacco smoke in workplace air;
- Smokefree restaurants and transport. At least half of the seating to be smokefree in passenger transport, waiting areas and eating places;
- No sales of tobacco to under 16 year-olds;
- Health messages on all tobacco products.
Price Policies

Tobacco products pricing is adjusted each March 1 and Sept 1 to keep up with inflation. Flexibility exists for the price to be further raised to discourage consumption.

National Educational Strategies

- National Health Education promotions, eg, Breakfree video clip and music for radio and television. The Breakfree education package is also available for secondary schools and community groups to work with;
- Promotion of Smokefree Generation programme.
- Health Sponsorship Advertising, eg, Smokefree PIC Netball team.
- Sales of smokefree promotional materials, eg, signs, stickers, T-shirts, mugs etc.
- Inclusion of smokefree messages in Department of Health publications: Your Pregnancy, Baby Health Care, Breastfeeding and Health and Development Record.

Other

- Development and widespread distribution of both behavioural and medical aids to smoking cessation.

SUGGESTED AREA HEALTH BOARD/COMMUNITY STRATEGIES

Many different local initiatives exist. Smokefree News a regular Department of Health newsletter publicises these. The Health Sponsorship Council may also cooperate with area health boards in funding sponsorships.

Local initiatives

These include:

Workplaces: Pregnant women in area health board employment should not be exposed to tobacco smoke either in the cafeteria or while working;

Outpatients: Pregnant women should be able to attend clinics without having to breathe other people’s tobacco smoke;

Wards: Area health boards should avoid cigarette smoke circulating to antenatal, postnatal, neonatal and incubator nursery wards either directly or through air-conditioning;

Smokefree Coordinators: Smokefree coordinators have been appointed in each area health board. The coordinator can advise managers to ensure completely smokefree conditions for mothers and babies while they are in or on board premises as workers or clients/patients.
PRENATAL
These include:
- ensuring smoking mothers are aware of smoking cessation courses in their area. Consult smokefree coordinator;
- making available factsheets and information about the effects smoking may have on both mother and infant. See the Help Prevent Cot Death programme resources and Smokefree Catalogue;
- encouraging the establishment of a smokefree zone in the home. Place a smokefree sign in baby’s room, ie, Babies Needs wall frieze given out with the Health and Development Record book. This is an ideal time for the whole home to consider going smokefree. Those who smoke can still go outside.

MATERNITY SERVICES
These include:
- ensuring maternity wards are smokefree;
- ensuring visitors do not smoke in wards;
- displaying smokefree signs in all health delivery services facilities;
- providing education that links smoking during pregnancy and around young infants to cot death, ie, Help Prevent Cot Death resources.

POSTNATAL AND COMMUNITY
These include:
- health workers providing a role model, eg, not smoking in public view;
- encouraging smokefree homes;
- making available smokefree stickers, signs and leaflets for parents to take home;
- modelling smokefree environments in all health service deliverers’ facilities, ie, smokefree Plunket cars. Encourage all other agencies to establish similar smokefree environments;
- asking people who smoke to go outside to smoke;
- ensuring mothers who still smoke are made aware of smoking cessation courses and support networks in their area.

KEY INFORMATION
Risks to babies exposed to tobacco smoke:
- smoking frequently causes low birth weight and the percentage of babies who are of low birth rate has been increasing in recent years;
- some of these babies with very low birth weight do not survive. New Zealand’s postneonatal death rate age one to 11 months was the highest in the OECD in 1986. This was mainly due to cot death;
- infants and children who live in a smoking environment can develop serious health problems such as asthma, pneumonia and “glue ear”.
Risks to New Zealand women who smoke:

- about 1 in 4 New Zealand women who smoke are likely to die early due to smoking;
- the lung cancer death rate for New Zealand women has increased by over 400 percent since the early 1950s due to women smoking more;
- New Zealand has the second highest preventable loss of life for women due to coronary heart disease in the OECD (industrialised) countries;
- New Zealand women have the highest preventable loss of life in the OECD due to asthma, bronchitis and emphysema in OECD countries.
BREASTFEEDING
Strategic Plan and Information Guideline

Breast milk is the optimum food for infants. In addition to its nutritional value, breast milk contains antibodies and special proteins that help protect infants from common childhood illnesses. Breast milk also helps to protect infants from cot death.

Breastfeeding has emotional benefits for both mother and child. Maternity and community health services play a key role in influencing a woman’s decision to breastfeeding, and her ability to continue.

GOAL

To promote breastfeeding as the optimum form of nutrition for infants until six months of age.

TARGET

To increase exclusive breastfeeding rates at three months to 60 percent by 1995 and 95 percent by the year 2000.

STRATEGIES

The decision and ability to continue with breastfeeding is influenced by many factors. Some of these are beyond the control of mothers. Strategies to promote breastfeeding need to include both public policy and community development approaches.

NATIONAL STRATEGIES

These include:

• promotion of the “International Code of Marketing of Breastmilk Substitutes”;
• promotion of breastfeeding as the ideal way to feed infants until six months;
• development of a New Zealand breastfeeding handbook for pregnancy and childbirth and well childcare workers;
• support for the work of agencies that promote breastfeeding;
• promotion of breastfeeding through adolescent and youth parenting education programmes, pregnancy classes, and new parent groups;
• promotion of the value of breastfeeding through video and print material;
• development of breastfeeding promotional material including posters, booklets and factsheets.
SUGGESTED AREA HEALTH BOARD/CHILDBIRTH UNIT/COMMUNITY STRATEGIES

These include:

- adoption of an explicit policy for promoting and supporting breastfeeding;
- communication of this policy to all those responsible for managing and providing maternity services (i.e., providing oral briefing for new staff, manuals, guidelines and supervisory staff);
- development of a mechanism to monitor prevalence of breastfeeding for all interested groups and professions;
- assessment as to whether all staff are aware of the importance and advantages of breastfeeding and the boards’ units’ breastfeeding policy;
- provision of specialist training in lactation management for specific staff;
- having staff or counsellors with specialist training in lactation management available at all times;
- promotion of mother support groups during and following pregnancy;
- development of a policy that encourages lactation support groups to visit the birthing unit;
- provision of specialist support and counselling on how to initiate and maintain breastfeeding to women who:
  - have undergone Caesarian section,
  - have delivered prematurely,
  - have delivered low birth weight infants,
  - have infants who are in special care for any reason;
- adopting a policy whereby “discharge packs” with baby and personal products do not contain anything that might interfere with the successful initiation and establishment of breastfeeding, e.g., feeding bottles and teats and infant formula.

KEY PRACTICES

ANTENATAL PERIOD

- At the first antenatal contact, advise women of the importance and advantages of breastfeeding. Actively encourage and support this choice and supply mothers with health education materials.
- Record intention to breastfeed in antenatal records. Perform a breast examination and document breastfeeding history.
- Communicate all information to labour, delivery and postnatal staff. Give special attention and support to women who have not breastfed before or, who have had problems.
- During the antenatal period inform women of how to prepare for breastfeeding and how to ensure its successful initiation and establishment. Encourage use of health education materials.
• Ensure women are informed of the importance of their own nutrition during pregnancy and lactation. Discourage use of alcohol, tobacco, excessive caffeine, non-medical drugs and unnecessary medication.

LABOUR AND DELIVERY PERIOD
• Promote natural childbirth wherever possible.
• Take into account a woman’s decision to breastfeed when deciding on the use of an analgesic, sedative or anaesthetic.
• Encourage close mother/child contact and encourage a mother to breastfeed her child within half an hour of delivery.
• If a woman has not breastfed before, or has experienced problems, the midwife should ask to stay for the completion of the first feed to assist and encourage. (This may not be appropriate for all cultures when the father is present.)

NB. Clinical situations may exist where breastfeeding would not be recommended, ie, where a mother or her partner are known to be HIV positive. This would be a decision based on the individual circumstances and made between the mother and primary health care provider.

POSTNATAL PERIOD
• Practise rooming-in. That is, infants remain with their mothers throughout their stay. If rooming-in applies only during daytime hours, infants are at least brought frequently (every 3-4 hours) to their mothers at night.
• Instruct mothers in the correct positioning of babies for breastfeeding.
• Place infant cots close to mothers’ beds.
• Promote frequent suckling and practise breastfeeding on demand.
• Women should be taught how to maintain lactation if they are separated from their infants.
• Restrict prelacteal infant feeding. That is, any food or drink other than breast milk, before breastfeeding has been established.
• Ensure follow-up contacts and breastfeeding support contacts are established before a mother is discharged.

COMMUNITY
• Develop a written breastfeeding policy that is routinely communicated to all relevant health workers.
• Train health care staff in skills necessary to implement this policy.
• Promote the benefit and management of breastfeeding with pregnant women.
• Encourage giving infants no food, water or drink other than breast milk until four months, unless medically indicated.
• Practise breastfeeding on demand.
• Encourage the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital.
KEY INFORMATION

- Most women are able to lactate and need to be prepared antenatally for the realities of breastfeeding and be encouraged to contact support people.
- Initiation of lactation can be impeded by anaesthesia, strong sedation, prolonged labour, surgical intervention, stress, discomfort and fatigue.
- Mother and child contact immediately following birth and frequent sucking at the breast are the best stimuli for milk secretion.
- Correct positioning of the infant at the breast is important. It facilitates feeding, ensures adequate milk supply and helps prevent sore or cracked nipples and breast enlargement.
- Milk is produced in response to suckling. To balance supply and demand an infant needs to feed as often as it demands.
- Colostrum, the first milk, is of particular nutritional and health value to the infant. It is rich in proteins and fat soluble vitamins and contains anti-infective properties. It is the infant's first immunisation.
- Under normal circumstances, the infant requires no water or other food whatsoever during the first 2 to 4 days after birth, while lactation is being established. NB: Added water increases jaundice and decreases breastfeeding.
- If other food or drink is given before complementary feeding is nutritionally required at 4-6 months it may interfere with the maintenance of breastfeeding.
- Objective and consistent information and education is available on breastfeeding from the Department of Health. Print materials are available to be given to mothers.
- Maternity services are encouraged to ensure staff with specialised training in lactation management are available day and night to advise breastfeeding women during their stay in hospital.
- Support for breastfeeding in the community and workplace should be fostered.

Aspects of this policy have been derived from the joint WHO/UNICEF Statement 1989, Protecting, promoting and supporting breastfeeding: the special role of maternity services.
SAFE INFANT SLEEPING PRACTICES
Strategic Plan and Information Guideline

The sleeping of infants prone (on their fronts) has been identified in the New Zealand Cot Death Study and other international research as a contributing factor to cot deaths. The findings of the New Zealand study indicate that if no infants slept prone (assuming a causal relationship) there would be a 52 percent reduction in cot death.

GOAL

To reduce the number of infants sleeping prone.

TARGET

To increase side and back sleep positions at six weeks to 90 per cent by 1992 and 100 per cent by the year 1995.

STRATEGIES

Sleep position is influenced not only by culture but also by health professional advice. The recent practice of prone sleeping appears to have come about as the result of changed health professional advice in relation to new born infants. New Zealand grandparents appear to still support side and back sleep positions. The main strategies are therefore orientated toward changing health professional advice.

NATIONAL STRATEGIES

Strategies to change sleep position will include:
• a national mass media campaign using television and print media;
• development and distribution of written material for health professionals;
• development and distribution of written material for popular print media;
• including sleep position messages in infant health promotional video and print material.

SUGGESTED AREA HEALTH BOARD/CHILDBIRTH UNIT/COMMUNITY STRATEGIES

Local strategies for promoting a change in sleep position could include:
• adoption of a local policy regarding infant sleep position;
• communication of this policy to all those responsible for managing and providing maternity and infant health services;
• the holding of area health board, community and iwi meetings to promote the findings of the New Zealand Cot Death Study to relevant health workers.

KEY PRACTICES

These include:
• postnatal ward staff and midwives who deliver babies at home should firmly recommend the back or side sleep position for babies under the age of six months;
• promote the fact that infants sleeping on their back are not at increased risk of aspiration.

KEY INFORMATION

Sleep position for infants appears to depend to a large extent on the practice and advice received in postnatal wards.

In Otago where clear advice recommending the back or side position has been in place for 18 months, 95 percent of babies sleep in the recommended position. Plunket nurses are probably the next most influential in Otago in the advice they give parents at home. Grandmothers in general are in favour of the recommendations because they remember the “old days” when the lateral position was prescribed.

All postnatal wards and midwives who deliver babies at home should now be firmly recommending the side or back sleep position for babies under the age of six months.

The main objection to the use of the back position is the theoretical risk of aspirating vomit while babies are on their back. This is a known risk for unconscious people, but babies asleep are not unconscious and in those countries where babies are routinely placed to sleep on their backs, death from aspiration of vomitus in infancy is extremely rare.

Babies with clinically significant gastro-oesophageal reflux or Pierre Robin syndrome should sleep on their front but extra care should be taken that they are unable to crawl under bed-clothes and that the mattress is firm.

Finally, some babies appear to settle to sleep only if they are placed to sleep prone. They are usually infants who have already learnt to sleep prone in the postnatal period. Usually these babies will settle if put on their backs with the head of the bed raised by a low pillow either under the mattress or under the babies head.
QUESTIONS AND ANSWERS ABOUT COT DEATH

Q. Cot death appears to be a new condition. Why is this?
A. Cot death has occurred since biblical times, in the past the main causes of death in infancy was infections. With the improvement of standards of living, medical care, antibiotics etc, deaths from infections are now mostly prevented. Many of the deaths that do happen are sudden and unexpected and occur in seemingly healthy infants. These are called cot deaths, sometimes called Sudden Infant Death Syndrome or SIDS for short.

Q. How can I tell if my baby is at risk from cot death?
A. Many studies of cot death both in New Zealand and overseas have recognised that certain infants are at increased risk. Babies who stop breathing should be seen by a doctor. Others at risk include babies of mothers who are young, unmarried and of low income and who have their first pregnancy under the age of 20. Babies of low birth weight, premature, Maori and male are also at increased risk as are babies born in autumn and in the South Island.

Q. What can I do to reduce the risk of my baby dying from cot death?
A. Recent research from New Zealand indicates that three factors which can be changed will reduce the risk of cot death. To reduce the risk of your baby dying you should put baby to sleep on their side or back, not smoke either during pregnancy or during the infant’s first year of life, and breastfeed baby for six months.

Q. What are the most important risk factors?
A. All these three risk factors are important. Babies sleeping on their stomachs have 3.5 times the risk of dying compared with babies sleeping on their sides or backs. Mothers who smoke 20 or more cigarettes per day increase the risk to their baby dying by 5 times. Lack of breastfeeding increases the risk 3 times.

Q. What should I do if my baby won’t sleep on her back or side?
A. Babies that learn to sleep on their side or backs from birth continue with this type of sleeping position. Once a baby has established sleeping on their front it becomes more difficult to get them to sleep on their backs. With perseverance most babies can be encouraged to sleep on their back or side.

Q. Why is sleeping on stomachs dangerous for infants?
A. Babies who sleep on their stomachs have an increased risk of upper airway obstruction and risk becoming too hot if they cover their face (the face is the most important heat loss surface in infants).

Q. Will babies choke on vomit if they are their back?
A. Countries where babies routinely sleep on their backs, such as Hong Kong, have low cot death rates and death from aspiration of vomit is very rare. More than 99.9 percent of babies can safely sleep on their back.
There are a few medical reasons why babies should sleep on their stomach. Your doctor or nurse will tell you if your baby should not be placed on its back.

Q. **Is smoking bad during or after pregnancy?**
A. It seems likely that smoking is bad both during and after pregnancy. Those that are unable to give up smoking completely should try and smoke less or smoke away from baby.

Q. **What is the effect of father's smoking?**
A. There is no evidence that the father smoking during the pregnancy has an effect on the baby inside the womb, but the father's smoking after the baby's birth does have an effect. As mothers in general take most responsibility for caring for their infants, the effects of the father smoking is likely to be small, unless he is the main caregiver for the baby.

Q. **Why is smoking dangerous?**
A. Smoking in pregnancy results in smaller babies and nicotine has a direct effect on the brain cells. Carbon monoxide from cigarettes may decrease oxygen delivery to the infant's tissues. A smoke-filled house increases the risk of a baby getting chest infections and asthma.

Q. **How long should I breastfeed my baby to reduce the risk?**
A. At the moment it is difficult to give a firm answer. The New Zealand study shows breastfeeding for a short period is better than no breastfeeding at all. Overseas studies show that babies who die of cot death are less likely to have been breastfed and if breastfed are weaned early. Although there is some uncertainty it is recommended that babies are exclusively breastfed for the first four months of life (ie, without complement feedings and without the introduction of solids) and breastfeeding should continue at least until six months.

Q. **Why does breastfeeding help to protect infants from cot death?**
A. Breast milk contains antibodies and lymphocytes which help protect babies from infection. It also supplies ideal nutrition.

Q. **If I check my baby frequently will this prevent cot death?**
A. All parents check their babies, some more frequently than others. Unfortunately if a baby stops breathing, brain damage will occur after about four minutes. This short period of time makes frequent checking impractical as a method of preventing cot death.

Q. **Why do Maori have a higher cot death rate?**
A. The New Zealand Cot Death Study will be examining this in more detail but it seems likely that much of the Maori increased rates will be accounted for by their higher prevalence of low birth weight infants and maternal smoking.
Q. Do cot deaths occur in the Pacific Islands and Asian countries?
A. Yes, but the rate is very low. The reasons are uncertain, but may relate to infant care practices and warm environmental temperature. Fewer mothers in these countries are smokers.

Q. Why do more babies die in the South Island from cot death than in the North Island?
A. It seems unlikely that the risk factors described above are more common in the South Island than they are in the North Island. It would appear that these risk factors interact with some environmental factor and the most likely effect is how babies are looked after when the outside temperature is low. This question will continue to be researched in the New Zealand Cot Death Study.

Q. If babies are not put to sleep in a cot are they safe from cot death?
A. About 50 percent of cot deaths occur in the house between midnight and 6.00 am. Where the infant dies reflects where babies are put to sleep. Babies die in bassinets, cots, beds, car seats and on the sofa, and these are still referred to as cot deaths.

Q. I know a mother who never smoked, breastfed her baby and put the baby to sleep on her back and yet her baby still died of cot death. Why was this?
A. Recent research suggests that the cot death rate could be reduced by almost 80 percent if babies were put to sleep on their back or side, were breastfed and mothers didn't smoke. This does mean that 20 percent of cot deaths would still occur without any of these risk factors being apparent.

This would reduce cot death down to a level of 1 in every 1000 live births which is much less than 4 per 1000 as at present.

Q. What should I do if I cannot breastfeed or have weaned baby already?
A. Babies that are not breastfed at all are at increased risk. Try to breastfeed baby even if you are having some difficulty. If you are unable to breastfeed baby it becomes important that baby is not exposed to smoking and is put to sleep on the back or side.

Q. What truth is there in the claim that cot death is caused by nappy sterilisers?
A. This and other theories promoted without scientific basis causes confusion to parents and distress to parents whose babies have died. Preliminary data from the New Zealand Cot Death Study found nappy sterilisers used in 68 percent of control babies, that is babies who have not died, and 62 percent of cot death cases. This provides no support for this theory.
ADDITIONAL RESOURCES

Your Pregnancy—booklet
Breastfeeding—Giving Baby the Best You've Got—booklet
Breastfeeding—Giving Baby the Best You've Got—poster
Breastfeeding—factsheets
  Inverted Nipples
  Sore Nipples
  Time For Toddlers
  Expressing Milk
  Weaning
  Starting Solids
  Sore Breasts
Go Smokefree For You and Your Baby—Factsheet
Health and Development Record and Recording Child Health and Development—books
Baby Health Care Education Resources—To Use with Parents.
Contents include:
Health Care for Your Baby—leaflet
Babies need . . . wall frieze/phone list
The Biggest Love—video
Baby Health Care—poster
These items are available from area health boards.
Area health boards place bulk order to:
Department of Health Stores (04) 496 2065
(Some resources are distributed on a cost recovery basis only)
Child Safety (MOT leaflet on car seat safety)
Cot Death, You Can Reduce Risks—leaflet available from your local Cot Death Society
Tots and Toddlers—video obtainable from Plunket
Plunket Information—leaflet obtainable from Plunket

SMOKEFREE PROMOTION

Break Free—An educational video about young women and smoking, distributed to all schools
Contents include:
  Break Free—video
  Break Free—challenge sheet
  Break Free and Let’s Do It Together—audio cassette
  Break Free—poster
  Smokefree—factsheets
  Facilitators Guide
  Smokefree Generation—stickers
Smokefree Catalogue—Health Education Services